

**Science Standards**

**Environmental Science**

**Course Overview:**

Environmental Science is an elective course intended for students who are interested in the interactions of living and non-living parts of nature. Students will study ecological relationships and explore the significance of all biotic and abiotic factors on Earth.

**Environmental Science Essential Questions (Essential standards are the standards all students will learn as they complete the course.)**

* Students can identify systems and organs of the human body.
* Students appreciate the function of the systems and organs of the human body.
* Students understand how the human body changes throughout its life.
* Students know major disorders that effect major systems and organs of the human body.
* Students will understand that their choices affect the world around them.

**Unit 1: Introduction to Environmental Science (20 days)**

**Description:**

Unit 1 will introduce students to Environmental Science. Students will explore the global perspective of the environment on Earth. A review of major scientific ideas will be studied as well as how technology is incorporated into environmental science.

**Standards**

1. The students will identify and understand the format of the metric system. Including base units, prefixes, and the process of converting from one unit to another.
2. The students will understand the steps of the scientific method will be able to apply it when solving a problem.
3. The students will investigate our environment and the problems associated with it. (HS-ESS3-1)
4. The students will explore how environmental problems can be solved and the importance of decisions that are made in regards to our environment. (HS-ESS3-2)

**Unit 2: Ecosystems (25 days)**

**Description:**

Unit 2 will introduce basic principles of ecology to students. Students will study how our world is ecologically balanced and the value of living and non-living things in its ecosystems. The parts of ecosystems, the different types of ecosystems, and how they work will be explored throughout this unit.

**Standards**

1. The students will study the interactions of organisms and investigate the role of competition within communities. (HS-LS2-1, HS-LS2-7, HS-LS2-8)
2. The students will explore major biological communities and investigate the biotic and abiotic factors associated with them. (HS-LS2-4)
3. The students will explore the cycles found in nature and their importance and understand how energy flows throughout the environment. (HS-LS2-3, HS-LS2-4, HS-LS2-5)
4. The students will understand how ecosystems have changed over the years and the impact human activity has had on them. (HS-LS2-6, HS-LS2-7)

**Unit 3: Natural Resources (25 days)**

**Description:**

Unit 3 will study how people use the natural resources of Earth (water, air, land).

**Standards**

1. The students will learn about the resources associated with water and the different types of pollution associated with it. (HS-ESS2-5, HS-ESS3-6)
2. The students will learn about the resources associated with air and the different types of pollution associated with it. (HS-ESS2-6, HS-ESS3-6)
3. The students will explore the characteristics of the atmosphere of Earth and investigate problems associated with it. (HS-ESS2-3, HS-ESS2-4, HS-ESS3-5)
4. The students will study how humans have used land over the years and learn about the impact we have had on Earth. (HS-ESS3-1, HS-ESS3-2, HS-ESS3-6)
5. The students will learn about the importance agriculture and explore how the world is fed. (HS-LS2-8, HS-ESS2-6)
6. The students will investigate the use of fossil fuels and alternative energy sources and how the impact our environment. (HS-ESS2-6, HS-ESS3-5, HS-ESS3-6

**Unit 4: Biodiversity and Earth’s Future (20 days)**

**Description:**

Unit 4 will study how our actions have impacted and will impact the world around us. Students will explore what is being done to coexist in our environment and what can be done to continue this in the future.

**Standards**

1. The students will study how populations change in size and the impact its fluctuation has on the environment. (HS-LS2-7)
2. The students will investigate the problems associated with waste disposal and a growing population. (HS-ESS3-4)
3. The students explore the importance of biodiversity on Earth and study actions in place to protect it. (HS-LS2-7)
4. The students will learn about steps that are needed to insure a positive life on Earth. (HS-LS2-7)